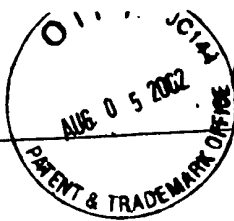


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2002-07-29 Sequence.txt
SEQUENCE LISTING

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<110> M&E Biotech A/S

<120> Method for down-regulating GDF-8 activity

<130> 3631-0117P

<140> 09/620,586

<141> 2000-07-20

<160> 24

<170> PatentIn Ver. 2.1

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Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
35 40 45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Val Ile Arg Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
115 120 125

Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser

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130						135						140				
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Arg	Pro	Val	Glu	Thr	Pro	Thr	Thr	Val	Phe	Val	Gln	Ile	Leu	Arg	Leu	
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			180					185					190			
Lys	Leu	Asp	Met	Asn	Pro	Gly	Thr	Gly	Ile	Trp	Gln	Ser	Ile	Asp	Val	
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Lys	Thr	Val	Leu	Gln	Asn	Trp	Leu	Lys	Gln	Pro	Glu	Ser	Asn	Leu	Gly	
	210					215					220					
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225					230					235					240	
Phe	Pro	Gly	Pro	Gly	Glu	Asp	Gly	Leu	Asn	Pro	Phe	Leu	Glu	Val	Lys	
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Val	Thr	Asp	Thr	Pro	Lys	Arg	Ser	Arg	Arg	Asp	Phe	Gly	Leu	Asp	Cys	
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Asp	Glu	His	Ser	Thr	Glu	Ser	Arg	Cys	Cys	Arg	Tyr	Pro	Leu	Thr	Val	
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Lys	Ala	Asn	Tyr	Cys	Ser	Gly	Glu	Cys	Glu	Phe	Val	Phe	Leu	Gln	Lys	
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Tyr	Pro	His	Thr	His	Leu	Val	His	Gln	Ala	Asn	Pro	Arg	Gly	Ser	Ala	
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Gly	Pro	Cys	Cys	Thr	Pro	Thr	Lys	Met	Ser	Pro	Ile	Asn	Met	Leu	Tyr	
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Phe	Asn	Gly	Lys	Glu	Gln	Ile	Ile	Tyr	Gly	Lys	Ile	Pro	Ala	Met	Val	
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<212> PRT

<213> Meleagris gallopavo

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          20              25              30

Gln  Asn  Thr  Lys  Ser  Ser  Arg  Ile  Glu  Ala  Ile  Lys  Ile  Gln  Ile  Leu
          35              40              45

Ser  Lys  Leu  Arg  Leu  Glu  Gln  Ala  Pro  Asn  Ile  Ser  Arg  Asp  Val  Ile
          50              55              60

Lys  Gln  Leu  Leu  Pro  Lys  Ala  Pro  Pro  Leu  Gln  Glu  Leu  Ile  Asp  Gln
          65              70              75              80

Tyr  Asp  Val  Gln  Arg  Asp  Asp  Ser  Ser  Asp  Gly  Ser  Leu  Glu  Asp  Asp
          85              90              95

Asp  Tyr  His  Ala  Thr  Thr  Glu  Thr  Ile  Ile  Thr  Met  Pro  Thr  Glu  Ser
          100              105              110

Asp  Phe  Leu  Val  Gln  Met  Glu  Gly  Lys  Pro  Lys  Cys  Cys  Phe  Phe  Lys
          115              120              125

Phe  Ser  Ser  Lys  Ile  Gln  Tyr  Asn  Lys  Val  Val  Lys  Ala  Gln  Leu  Trp
          130              135              140

Ile  Tyr  Leu  Arg  Gln  Val  Gln  Lys  Pro  Thr  Thr  Val  Phe  Val  Gln  Ile
          145              150              155              160

Leu  Arg  Leu  Ile  Lys  Pro  Met  Lys  Asp  Gly  Thr  Arg  Tyr  Thr  Gly  Ile
          165              170              175

Arg  Ser  Leu  Lys  Leu  Asp  Met  Asn  Pro  Gly  Thr  Gly  Ile  Trp  Gln  Ser
          180              185              190

Ile  Asp  Val  Lys  Thr  Val  Leu  Gln  Asn  Trp  Leu  Lys  Gln  Pro  Glu  Ser
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Asn  Leu  Gly  Ile  Glu  Ile  Lys  Ala  Phe  Asp  Glu  Asn  Gly  Arg  Asp  Leu
          210              215              220

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Glu Val Arg Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly
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Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro
 260 265 270

Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro
 275 280 285

Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe
 290 295 300

Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg
 305 310 315 320

Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn
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Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro
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 <212> PRT
 <213> Gallus sp.

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 20 25 30

Ala Glu Lys Asp Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
 35 40 45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
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Arg Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu
 65 70 75 80

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Leu Pro Lys Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val
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Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
115 120 125

Val Gln Met Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
210 215 220

Ile Glu Ile Lys Ala Phe Asp Glu Thr Gly Arg Asp Leu Ala Val Thr
225 230 235 240

Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg
245 250 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
260 265 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
275 280 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290 295 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305 310 315 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
325 330 335

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Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
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Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
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<210> 4

<211> 376

<212> PRT

<213> Mus musculus

<400> 4

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 20 25 30

Asn Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Ala Trp Arg Gln Asn
 35 40 45

Thr Arg Tyr Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys
 50 55 60

Leu Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln
 65 70 75 80

Leu Leu Pro Arg Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp
 85 90 95

Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr
 100 105 110

His Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe
 115 120 125

Leu Met Gln Ala Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser
 130 135 140

Ser Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr
 145 150 155 160

Leu Arg Pro Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg

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165

170

175

Leu Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser
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Leu Lys Leu Asp Met Ser Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp
195 200 205

Val Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu
210 215 220

Gly Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val
225 230 235 240

Thr Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val
245 250 255

Lys Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp
260 265 270

Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
275 280 285

Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
290 295 300

Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln
305 310 315 320

Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser
325 330 335

Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
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Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met
355 360 365

Val Val Asp Arg Cys Gly Cys Ser
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<210> 5

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<213> Bos taurus

<400> 5

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Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Leu Trp Arg Glu Asn Thr
35 40 45

Thr Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Leu Glu Leu Ile Asp Gln Phe Asp Val
85 90 95

Gln Arg Asp Ala Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Arg Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
115 120 125

Thr Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Leu Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Pro Val Lys Thr Pro Ala Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
210 215 220

Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225 230 235 240

Phe Pro Glu Pro Gly Glu Asp Gly Leu Thr Pro Phe Leu Glu Val Lys
245 250 255

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Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
260 265 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
275 280 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290 295 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305 310 315 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
325 330 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
340 345 350

Phe Asn Gly Glu Gly Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
355 360 365

Val Asp Arg Cys Gly Cys Ser
370 375

<210> 6

<211> 375

<212> PRT

<213> Ovis sp.

<400> 6

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Val Glu Lys Lys Gly Leu Cys Asn Ala Cys Leu Trp Arg Gln Asn Asn
35 40 45

Lys Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95

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		115					120					125					
Ala	Glu	Val	Gln	Glu	Lys	Pro	Lys	Cys	Cys	Phe	Phe	Lys	Phe	Ser	Ser		
		130				135					140						
Lys	Ile	Gln	His	Asn	Lys	Val	Val	Lys	Ala	Gln	Leu	Trp	Ile	Tyr	Leu		
145					150					155					160		
Arg	Pro	Val	Lys	Thr	Pro	Thr	Thr	Val	Phe	Val	Gln	Ile	Leu	Arg	Leu		
				165					170					175			
Ile	Lys	Pro	Met	Lys	Asp	Gly	Thr	Arg	Tyr	Thr	Gly	Ile	Arg	Ser	Leu		
			180					185					190				
Lys	Leu	Asp	Met	Asn	Pro	Gly	Thr	Gly	Ile	Trp	Gln	Ser	Ile	Asp	Val		
		195					200					205					
Lys	Thr	Val	Leu	Gln	Asn	Trp	Leu	Lys	Gln	Pro	Glu	Ser	Asn	Leu	Gly		
		210				215					220						
Ile	Glu	Ile	Lys	Ala	Leu	Asp	Glu	Asn	Gly	His	Asp	Leu	Ala	Val	Thr		
225					230					235					240		
Phe	Pro	Glu	Pro	Gly	Glu	Glu	Gly	Leu	Asn	Pro	Phe	Leu	Glu	Val	Lys		
				245					250					255			
Val	Thr	Asp	Thr	Pro	Lys	Arg	Ser	Arg	Arg	Asp	Phe	Gly	Leu	Asp	Cys		
			260					265					270				
Asp	Glu	His	Ser	Thr	Glu	Ser	Arg	Cys	Cys	Arg	Tyr	Pro	Leu	Thr	Val		
		275					280					285					
Asp	Phe	Glu	Ala	Phe	Gly	Trp	Asp	Trp	Ile	Ile	Ala	Pro	Lys	Arg	Tyr		
		290				295					300						
Lys	Ala	Asn	Tyr	Cys	Ser	Gly	Glu	Cys	Glu	Phe	Leu	Phe	Leu	Gln	Lys		
305					310					315					320		
Tyr	Pro	His	Thr	His	Leu	Val	His	Gln	Ala	Asn	Pro	Lys	Gly	Ser	Ala		
				325					330					335			
Gly	Pro	Cys	Cys	Thr	Pro	Thr	Lys	Met	Ser	Pro	Ile	Asn	Met	Leu	Tyr		
			340					345					350				

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Val Asp Arg Cys Gly Cys Ser
 370 375

<210> 7
 <211> 376
 <212> PRT
 <213> Rattus norvegicus

<400> 7
 Met Ile Gln Lys Pro Gln Met Tyr Val Tyr Ile Tyr Leu Phe Val Leu
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 20 25 30

Asn Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Ala Trp Arg Gln Asn
 35 40 45

Thr Arg Tyr Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys
 50 55 60

Leu Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln
 65 70 75 80

Leu Leu Pro Arg Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp
 85 90 95

Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr
 100 105 110

His Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe
 115 120 125

Leu Met Gln Ala Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser
 130 135 140

Ser Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr
 145 150 155 160

Leu Arg Ala Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg
 165 170 175

Leu Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser

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180		185		190
Leu Lys Leu Asp Met Ser Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp	195	200	205	
Val Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu	210	215	220	
Gly Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val	225	230	235	240
Thr Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val	245	250	255	
Lys Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp	260	265	270	
Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr	275	280	285	
Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg	290	295	300	
Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln	305	310	315	320
Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser	325	330	335	
Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu	340	345	350	
Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met	355	360	365	
Val Val Asp Arg Cys Gly Cys Ser	370	375		

<210> 8

<211> 375

<212> PRT

<213> Sus scrofa

<400> 8

Met Gln Lys Leu Gln Ile Tyr Val Tyr Ile Tyr Leu Phe Met Leu Ile	1	5	10	15
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20 25 30

Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Met Trp Arg Gln Asn Thr
35 40 45

Lys Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
115 120 125

Met Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Pro Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
210 215 220

Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225 230 235 240

Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
245 250 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
260 265 270

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Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
275 280 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290 295 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305 310 315 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
325 330 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
340 345 350

Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
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Val Asp Arg Cys Gly Cys Ser
370 375

<210> 9

<211> 374

<212> PRT

<213> Danio rerio

<400> 9

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35 40 45

Ser Lys Leu Met Arg Leu His Ala Ile Lys Ser Gln Ile Leu Ser Lys
50 55 60

Leu Arg Leu Lys Gln Ala Pro Asn Ile Ser Arg Asp Val Val Lys Gln
65 70 75 80

Leu Leu Pro Lys Ala Pro Pro Leu Gln Gln Leu Leu Asp Gln Tyr Asp
85 90 95

Val Leu Gly Asp Asp Ser Lys Asp Gly Ala Val Glu Glu Asp Asp Glu
100 105 110

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His Ala Thr Thr Glu Thr Ile Met Thr Met Ala Thr Glu Pro Asp Pro
115 120 125

Ile Val Gln Val Asp Arg Lys Pro Lys Cys Cys Phe Phe Ser Phe Ser
130 135 140

Pro Lys Ile Gln Ala Asn Arg Ile Val Arg Ala Gln Leu Trp Val His
145 150 155 160

Leu Arg Pro Ala Glu Glu Ala Thr Thr Val Phe Leu Gln Ile Ser Arg
165 170 175

Leu Met Pro Val Lys Asp Gly Gly Arg His Arg Ile Arg Ser Leu Lys
180 185 190

Ile Asp Val Asn Ala Gly Val Thr Ser Trp Gln Ser Ile Asp Val Lys
195 200 205

Gln Val Leu Thr Val Trp Leu Lys Gln Pro Glu Thr Asn Arg Gly Ile
210 215 220

Glu Ile Asn Ala Tyr Asp Ala Lys Gly Asn Asp Leu Ala Val Thr Ser
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Thr Glu Thr Gly Glu Asp Gly Leu Leu Pro Phe Met Glu Val Lys Ile
245 250 255

Ser Glu Gly Pro Lys Arg Ile Arg Arg Asp Ser Gly Leu Asp Cys Asp
260 265 270

Glu Asn Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp
275 280 285

Phe Glu Asp Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys
290 295 300

Ala Asn Tyr Cys Ser Gly Glu Cys Asp Tyr Met Tyr Leu Gln Lys Tyr
305 310 315 320

Pro His Thr His Leu Val Asn Lys Ala Ser Pro Arg Gly Thr Ala Gly
325 330 335

Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe
340 345 350

Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ser Met Val Val
355 360 365

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Asp Arg Cys Gly Cys Ser
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<210> 10

<211> 375

<212> PRT

<213> Papio hamadryas

<400> 10

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Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
35 40 45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
115 120 125

Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val

205

Val	Asp	Arg	Cys	Gly	Cys	Ser
	370					375

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1           5           10           15
Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
      20           25           30
Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
      35           40           45
Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala
      50           55           60
Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
      65           70           75           80
Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly
      85           90           95
Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
      100           105

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<210> 12
 <211> 109
 <212> PRT
 <213> Bos taurus

<220>
 <221> PEPTIDE
 <222> (1)..(109)
 <223> Identical to residues 267-375 in SEQ ID NO: 5

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<400> 12
Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
  1           5           10           15
Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
      20           25           30
Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
      35           40           45
Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala
      50           55           60
Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
      65           70           75           80
Pro Ile Asn Met Leu Tyr Phe Asn Gly Glu Gly Gln Ile Ile Tyr Gly

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85

90

95

Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
 100 105

<210> 13

<211> 15

<212> PRT

<213> Clostridium tetani

<400> 13

Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
 1 5 10 15

<210> 14

<211> 21

<212> PRT

<213> Clostridium tetani

<400> 14

Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
 1 5 10 15

Ala Ser His Leu Glu
 20

<210> 15

<211> 109

<212> PRT

<213> Artificial sequence

<220>

<221> MUTAGEN

<222> (18)..(32)

<223> Tetanus toxoid P2 epitope (SEQ ID NO: 13)

<220>

<221> SIMILAR

<222> (1)..(17)

<223> Identical to residues 267-283 in SEQ ID NO: 1

<220>

<221> SIMILAR

<222> (33)..(109)

<223> Identical to residues 299-375 in SEQ ID NO: 1

2002-07-29 Sequence.txt

<220>

<221> SITE

<222> (73)

<223> Cys or Ser

<220>

<221> SITE

<222> (90)..(91)

<223> Lys Glu or Glu Gly

<400> 15

Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
1 5 10 15

Arg Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
20 25 30

Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
35 40 45

Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala
50 55 60

Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
65 70 75 80

Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly
85 90 95

Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
100 105

<210> 16

<211> 109

<212> PRT

<213> Artificial sequence

<220>

<221> MUTAGEN

<222> (52)..(66)

<223> Tetanus toxoid P2 epitope (SEQ ID NO: 13)

<220>

<221> SIMILAR

<222> (1)..(51)

<223> Identical to residues 267-317 in SEQ ID NO: 1

2002-07-29 Sequence.txt

<220>
 <221> SIMILAR
 <222> (67)..(109)
 <223> Identical to residues 333-375 in SEQ ID NO: 1

<220>
 <221> SITE
 <222> (73)
 <223> Cys or Ser

<220>
 <221> SITE
 <222> (90)..(91)
 <223> Lys Glu or Glu Gly

<400> 16
 Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
 1 5 10 15
 Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
 20 25 30
 Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
 35 40 45
 Phe Val Phe Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
 50 55 60
 Glu Leu Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
 65 70 75 80
 Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly
 85 90 95
 Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
 100 105

<210> 17
 <211> 109
 <212> PRT
 <213> Artificial sequence

<220>
 <221> MUTAGEN
 <222> (83)..(97)
 <223> Tetanus toxoid P2 epitope (SEQ ID NO: 13)

2002-07-29 Sequence.txt

<220>
 <221> SIMILAR
 <222> (1)..(82)
 <223> Identical to residues 267-348 in SEQ ID NO: 1

<220>
 <221> SIMILAR
 <222> (98)..(109)
 <223> Identical to residues 364-375 in SEQ ID NO: 1

<220>
 <221> SITE
 <222> (73)
 <223> Cys or Ser

<220>
 <221> SITE
 <222> (90)..(91)
 <223> Lys Glu or Glu Gly

<400> 17

Asp	Phe	Gly	Leu	Asp	Cys	Asp	Glu	His	Ser	Thr	Glu	Ser	Arg	Cys	Cys
1				5					10					15	

Arg	Tyr	Pro	Leu	Thr	Val	Asp	Phe	Glu	Ala	Phe	Gly	Trp	Asp	Trp	Ile
			20					25					30		

Ile	Ala	Pro	Lys	Arg	Tyr	Lys	Ala	Asn	Tyr	Cys	Ser	Gly	Glu	Cys	Glu
		35					40					45			

Phe	Val	Phe	Leu	Gln	Lys	Tyr	Pro	His	Thr	His	Leu	Val	His	Gln	Ala
	50					55					60				

Asn	Pro	Arg	Gly	Ser	Ala	Gly	Pro	Cys	Cys	Thr	Pro	Thr	Lys	Met	Ser
65					70					75				80	

Pro	Ile	Gln	Tyr	Ile	Lys	Ala	Asn	Ser	Lys	Phe	Ile	Gly	Ile	Thr	Glu
				85					90					95	

Leu	Ile	Pro	Ala	Met	Val	Val	Asp	Arg	Cys	Gly	Cys	Ser
			100					105				

<210> 18
 <211> 109
 <212> PRT
 <213> Artificial sequence

2002-07-29 Sequence.txt

<220>
 <221> MUTAGEN
 <222> (21)..(41)
 <223> Tetanus toxoid P30 epitope (SEQ ID NO: 14)

<220>
 <221> SIMILAR
 <222> (42)..(109)
 <223> Identical to residues 307-375 in SEQ ID NO: 1

<220>
 <221> SIMILAR
 <222> (42)..(109)
 <223> Identical to residues 308-375 in SEQ ID NO: 1

<220>
 <221> SITE
 <222> (73)
 <223> Cys or Ser

<220>
 <221> SITE
 <222> (90)..(91)
 <223> Lys Glu or Glu Gly

<400> 18
 Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
 1 5 10 15
 Arg Tyr Pro Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val
 20 25 30
 Pro Lys Val Ser Ala Ser His Leu Glu Tyr Cys Ser Gly Glu Cys Glu
 35 40 45
 Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala
 50 55 60
 Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
 65 70 75 80
 Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly
 85 90 95
 Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
 100 105

2002-07-29 Sequence.txt

<210> 19
 <211> 109
 <212> PRT
 <213> Artificial sequence

<220>
 <221> MUTAGEN
 <222> (49)..(69)
 <223> Tetanus toxoid P30 epitope (SEQ ID NO: 14)

<220>
 <221> SIMILAR
 <222> (1)..(48)
 <223> Identical to residues 267-314 in SEQ ID NO: 1

<220>
 <221> SIMILAR
 <222> (70)..(109)
 <223> Identical to residues 336-375 in SEQ ID NO: 1

<220>
 <221> SITE
 <222> (73)
 <223> Cys or Ser

<220>
 <221> SITE
 <222> (90)..(91)
 <223> Lys Glu or Glu Gly

<400> 19
 Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
 1 5 10 15
 Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
 20 25 30
 Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
 35 40 45
 Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
 50 55 60
 Ala Ser His Leu Glu Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
 65 70 75 80
 Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly
 85 90 95

2002-07-29 Sequence.txt

Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
 100 105

<210> 20
 <211> 109
 <212> PRT
 <213> Artificial sequence

<220>
 <221> MUTAGEN
 <222> (79)..(99)
 <223> Tetanus toxoid P30 epitope (SEQ ID NO: 14)

<220>
 <221> SIMILAR
 <222> (1)..(78)
 <223> Identical to residues 267-345 in SEQ ID NO: 1

<220>
 <221> SIMILAR
 <222> (100)..(109)
 <223> Identical to residues 366-375 in SEQ ID NO: 1

<220>
 <221> SITE
 <222> (73)
 <223> Cys or Ser

<220>
 <221> SITE
 <222> (90)..(91)
 <223> Lys Glu or Glu Gly

<400> 20
 Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
 1 5 10 15

Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
 20 25 30

Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
 35 40 45

Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala
 50 55 60

Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Phe Asn

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65	70	75	80
Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser			
	85	90	95
His Leu Glu Ala Met Val Val Asp Arg Cys Gly Cys Ser			
	100	105	

<210> 21
 <211> 109
 <212> PRT
 <213> Artificial sequence

<220>
 <221> MUTAGEN
 <222> (84)..(104)
 <223> Tetanus toxoid P30 epitope (SEQ ID NO: 14)

<220>
 <221> SIMILAR
 <222> (1)..(83)
 <223> Identical to residues 267-349 in SEQ ID NO: 1

<220>
 <221> SIMILAR
 <222> (105)..(109)
 <223> Identical to residues 371-375 in SEQ ID NO: 1

<220>
 <221> SITE
 <222> (73)
 <223> Cys or Ser

<220>
 <221> SITE
 <222> (90)..(91)
 <223> Lys Glu or Glu Gly

<400> 21
Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
1 5 10 15

Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
20 25 30

Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
35 40 45

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Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala
 50 55 60

Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
 65 70 75 80

Pro Ile Asn Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro
 85 90 95

Lys Val Ser Ala Ser His Leu Glu Arg Cys Gly Cys Ser
 100 105

<210> 22
 <211> 254
 <212> PRT
 <213> Artificial sequence

<220>
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 <222> (110)..(124)
 <223> Tetanus toxoid P2 epitope (SEQ ID NO: 13)

<220>
 <221> SIMILAR
 <222> (125)..(145)
 <223> Diphtheria toxoid P30 epitope (SEQ ID NO: 14)

<220>
 <221> SIMILAR
 <222> (1)..(109)
 <223> 109 C-terminal residues of human and bovine GDF-8
 (residues 267-375 in SEQ ID NO: 1)

<220>
 <221> SIMILAR
 <222> (146)..(254)
 <223> 109 C-terminal residues of human and bovine GDF-8
 (residues 267-375 in SEQ ID NO: 1)

<220>
 <221> SITE
 <222> (90)..(91)
 <223> Lys Glu or Glu Gly

<220>
 <221> SITE

2002-07-29 Sequence.txt

<222> (235)..(236)

<223> Identical to (90)..(91)

<400> 22

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Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
 1           5           10           15

Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
          20           25           30

Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
          35           40           45

Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala
          50           55           60

Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
 65           70           75           80

Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly
          85           90           95

Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser Gln Tyr Ile
          100          105          110

Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu Phe Asn Asn Phe
          115          120          125

Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser His Leu
          130          135          140

Glu Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys
          145          150          155          160

Cys Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp
          165          170          175

Ile Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys
          180          185          190

Glu Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln
          195          200          205

Ala Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met
          210          215          220

Ser Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr
          225          230          235          240

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Gly Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
 245 250

<210> 23
 <211> 160
 <212> PRT
 <213> Artificial sequence

<220>
 <221> MUTAGEN
 <222> (16)..(36)
 <223> Tetanus toxoid P30 epitope (SEQ ID NO: 14)

<220>
 <221> MUTAGEN
 <222> (37)..(51)
 <223> Tetanus toxoid P2 epitope (SEQ ID NO: 13)

<220>
 <221> SIMILAR
 <222> (1)..(15)
 <223> Identical to residues 216-230 of SEQ ID NO: 1

<220>
 <221> SIMILAR
 <222> (52)..(160)
 <223> Identical to residues 267-375 of SEQ ID NO: 1

<220>
 <221> SITE
 <222> (124)
 <223> Cys or Ser

<220>
 <221> SITE
 <222> (141)..(142)
 <223> Lys Glu or Glu Gly

<400> 23
 Leu Lys Gln Pro Glu Ser Asn Leu Gly Ile Glu Ile Lys Ala Leu Phe
 1 5 10 15

Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala
 20 25 30

Ser His Leu Glu Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile

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35

40

45

Thr Glu Leu Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser
50 55 60

Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp
65 70 75 80

Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly
85 90 95

Glu Cys Glu Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val
100 105 110

His Gln Ala Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr
115 120 125

Lys Met Ser Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile
130 135 140

Ile Tyr Gly Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
145 150 155 160

<210> 24

<211> 13

<212> PRT

<213> Unknown

<220>

<223> PADRE Peptide

<400> 24

Ala Lys Phe Val Ala Ala Trp Thr Leu Lys Ala Ala Ala
1 5 10